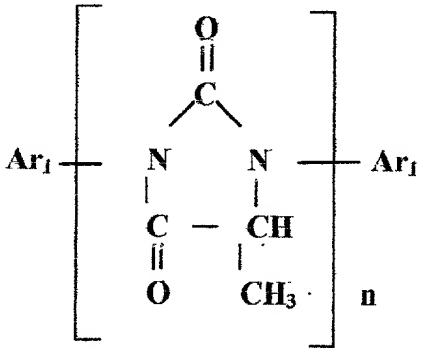
CLAIMS

1. A process for obtaining polyglycolyl urea from aromatic diglycinates to insulate electric conductors, without forming HCN polluting residues, characterized because it consists of the following steps: in a reactor, under stirring and reflux conditions, reacting a mixture of methyl bromopropionate and methylenedianiline in a $C_1 - C_4$ aliphatic solvent, at atmospheric pressure, up to solvent reflux temperature; adding a catalizer, preferably of triethylamine, at a rate of 0.178 l/hour per Kg of product during a reaction time of 3 to 4 hours and reflux till 19 hours; solvent separation through atmospheric distillation; crystallization at 50° C; mother waters filtration and purification through washing with water and drying of the methyl diglycinate obtained; a load of methyl methyl diglycinate is prepared in a reactor and cresylic acid is added, at room temperature, under stirring, till solution is complete; methylene diisocyanate is added, under stirring, up to a temperature of 60° C, during 2 to 4 hours till a product viscosity of 44 to 47 seconds at 25° C is reached; addition of triethylenediamino or 1,4 diazobicyclo (2,2,2) octane; temperature increase up to 180° C during a 6-hour period; then distillation up to a temperature of 200° C; cooling at 70° C and a polyglycolyl urea hydantoin resin of the following formula is obtained:



where Ar_1 is a substituted aromatic compound or a substituted diphenylalkyl and $2<n<500$ with a viscosity (Cp) = 4,800 at 15% solids.

2. The process for obtaining polyglycolyl urea according to claim 1, characterized because the $C_1 - C_4$ solvent is preferably methanol.
3. The process according to claim 1, characterized because the reflux temperature of the $C_1 - C_4$ aliphatic solvent is 58 – 63°C.
4. The process according to claim 1, characterized because the methyl methyl diglycinate obtained is dried with hot air at 40° C and in an obscure setting and corresponds to a stereoisomer mixture with a melting point of 95 – 116° C, of the following general formula:

$$Ar_1\ [NH\ –CH(CH_3)\text{-}COOCH_3]_2$$

5. The process for obtaining polyglycolyl urea according to claim 1, characterized because the residues of the mother waters are by-products of the reaction of triethylamine bromohydrate salts which are neutralized with sodium hydroxide and separated through secondary distillation obtaining sodium bromide in solution and 90% triethylamine.